	Application No.	Applicant(s)
Notice of Allowability	10/720,894	SRINIVASA, DEEPAK M.
	Examiner	Art Unit	
	LIN LIU	2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to <u>12//11/2008</u>.

2. ☒ The allowed claim(s) is/are <u>1-8,10 and 15-22</u>.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

        a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

            1. ☐ Certified copies of the priority documents have been received.

            2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

            3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

            1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

     Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date <u>01/08/2009</u> .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Patrice Winder/
Primary Examiner, Art Unit 2445

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview

with Ann M. Knab on January 08, 2009.

3.   The application has been amended as follows:

Claim 1 (currently amended) A method in a computer system for assessing the

relative complexity of different options for performing a task by the computer system,

the method comprising the steps of:

storing programming instructions on a storage medium of the computer system;

executing the instructions by the computer system, wherein the executing causes

the computer system to implement a method comprising the steps of:

defining the task as a sequenced set data structure that specifies actions of the

task, and sequence information that specifies the order in which particular actions are to

be performed;

storing recipes available for performing constituent actions of the task as

sequenced set data structures that specify subactions of the recipes for the constituent

actions, and sequence information that specifies the order in which the subactions are

to be performed;

determining complexity measures associated with performing the task using different combinations of recipes for constituent actions of the task, based upon complexity measures of actions specified by respective combinations of available recipes;

delegating the defined task to a primary agent for execution of the task by at least one of the primary agent and one or more contracting agents, wherein ~~the~~ determining complexity <u>measures</u> of the action is ~~characterized by~~ <u>based on</u> mutually exclusive measures comprising (i) the presence of recipes with the primary agent for performing the action and also the presence of agents for contracting out the action; (ii) the presence of recipes with the primary agent and the absence of agents for contracting; (iii) the presence of agents for contracting and the absence of recipes with the primary agent; and (iv) the absence of both agents and recipes; and

presenting a report of the complexity measures associated with performing the task.

Claim 2 (original) The method as claimed in claim 1, wherein complexity measures for actions are defined in terms of the complexity measures of available recipes for performing the actions, and complexity measures for recipes are defined in terms of the complexity of the subactions of the recipe.

Claim 3 (original) The method as claimed in claim 1, further comprising the steps of:

determining predetermined complexity measures for basic actions that are not specified by a recipe; and

determining specified complexity measures for contracted actions that are performed by a different agent.

Claim 4 (original) The method as claimed in claim 1, further comprising the alternating steps of:

updating complexity measures for recipes in relation to actions whose complexity measures are determined; and

updating complexity measures for actions in relation to recipes whose complexity measures are updated.

Claim 5 (original) The method as claimed in claim 1, wherein the complexity measures associated with a particular action performed by a particular agent is based upon the complexity measures for each of the recipes for that action.

Claim 6 (previously presented) The method as claimed in claim 1, wherein the sequence information that specifies the order in which particular actions are to be performed specifies, for pairs of actions, that one specified action is sequenced before another specified action.

Claim 7 (original) The method as claimed in claim 1, further comprising the step of defining a sequenced set data structure as S = (A, M), ha which A is a multi-set element and M is a sequenced relation that specifies an ordered sequence of the elements A in the sequenced set S.

Claim 8 (previously presented) The method as claimed in claim 7, further comprising the step of defining a sequencing relation for the sequenced set data

structure S for two elements a_i and a_j of multi-set element A, such that a_i is sequenced

before a_j in set A under the relation M.

Claim 9 (cancelled).

Claim 10 (previously presented) The method as claimed in claim 1, wherein a

plurality of series of actions exist for performing the defined task, each of the series of

actions having a corresponding complexity, and the method further comprises the step

of:

performing the defined task by executing a selected one of the series of actions,

wherein the complexity of the selected series of tasks is less than the complexities of

the other series of tasks of the plurality of series of tasks.

Claims 11-14 (canceled).

Claim 15 (currently amended) A method in a computer system for assessing the

relative complexity of different options for performing a task-by the computer system,

the method comprising the steps of:

storing programming instructions on a storage medium of the computer system;

executing the instructions by the computer system, wherein the executing causes the

computer system to implement a method comprising the steps of:

defining the task as a sequenced set data structure that specifies actions of the

task, and sequence information that specifies the order in which particular actions are to

be performed;

storing recipes available for performing constituent actions of the task as

sequenced set data structures that specify subactions of the recipes for the constituent

actions, and sequence information that specifies the order in which the subactions are

to be performed;

~~delegating the defined task to a primary agent for execution of the task by at~~

~~least one of the primary agent and one or more contracting agents, wherein the~~

~~complexity of the action is characterized by mutually exclusive measures comprising (i)~~

~~the presence of recipes with the primary agent for performing the action and also the~~

~~presence of agents for contracting out the action; (ii) the presence of recipes with the~~

~~primary agent and the absence of agents for contracting; (iii) the presence of agents for~~

~~contracting and the absence of recipes with the primary agent; and (iv) the absence of~~

~~both agents and recipes; and~~

determining complexity measures associated with performing the task using

different combinations of recipes for constituent actions of the task, based upon

complexity measures of actions specified by respective combinations of available

recipes;

delegating the defined task to a primary agent for execution of the task by at

least one of the primary agent and one or more contracting agents, wherein determining

complexity measures of the action is based on mutually exclusive measures comprising

(i) the presence of recipes with the primary agent for performing the action and also the

presence of agents for contracting out the action; (ii) the presence of recipes with the

primary agent and the absence of agents for contracting; (iii) the presence of agents for

contracting and the absence of recipes with the primary agent; and (iv) the absence of

both agents and recipes; and

wherein a plurality of series of actions exist for performing the defined task, each of the series of actions having a corresponding complexity, and the method further comprises the step of:

performing the defined task by executing a selected one of the series of actions, wherein the complexity of the selected series of tasks is less than the complexities of the other series of tasks of the plurality of series of tasks, and wherein the defined task includes a task for administering a networked computer system÷ .

Claim 16 (previously presented) The method as claimed in claim 15, wherein complexity measures for actions are defined in terms of the complexity measures of available recipes for performing the actions, and complexity measures for recipes are defined in terms of the complexity of the subactions of the recipe.

Claim 17 (previously presented) The method as claimed in claim 15, further comprising the steps of:

determining predetermined complexity measures for basic actions that are not specified by a recipe; and

determining specified complexity measures for contracted actions that are performed by a different agent.

Claim 18 (previously presented) The method as claimed in claim 15, further comprising the alternating steps of:

updating complexity measures for recipes in relation to actions whose complexity measures are determined; and

updating complexity measures for actions in relation to recipes whose complexity measures are updated.

Claim 19 (previously presented) The method as claimed in claim 15, wherein the complexity measures associated with a particular action performed by a particular agent is based upon the complexity measures for each of the recipes for that action.

Claim 20 (previously presented) The method as claimed in claim 15, wherein the sequence information that specifies the order in which particular actions are to be performed specifies, for pairs of actions, that one specified action is sequenced before another specified action.

Claim 21 (previously presented) The method as claimed in claim 15, further comprising the step of defining a sequenced set data structure as $S = (A, M)$, ha which A is a multi-set element and M is a sequenced relation that specifies an ordered sequence of the elements A in the sequenced set S.

Claim 22 (previously presented) The method as claim in claim 21, further comprising the step of defining a sequencing relation for the sequenced set data structure S for two elements a_i and a_j of multi-set element A, such that a_i is sequenced before a_j in set A under the relation M.

Claim 23 (Cancelled).

Allowable Subject Matter

4.   Claims 1-8, 10 and 15-22 are allowed.

5.   The following is an examiner's statement of reasons for allowance:

        The claimed invention is directed toward a method in a computer system for
assessing the relative complexity of different options for performing a task by the
computer system, the method comprising the steps of: storing programming instructions
on a storage medium of the computer system; executing the instructions by the
computer system, wherein the executing causes the computer system to implement a
method comprising the steps of: defining the task as a sequenced set data structure
that specifies actions of the task, and sequence information that specifies the order in
which particular actions are to be performed; storing recipes available for performing
constituent actions of the task as sequenced set data structures that specify subactions
of the recipes for the constituent actions, and sequence information that specifies the
order in which the subactions are to be performed; determining complexity measures
associated with performing the task using different combinations of recipes for
constituent actions of the task, based upon complexity measures of actions specified by
respective combinations of available recipes; delegating the defined task to a primary
agent for execution of the task by at least one of the primary agent and one or more
contracting agents, wherein determining complexity measures of the action is based on
mutually exclusive measures comprising (i) the presence of recipes with the primary
agent for performing the action and also the presence of agents for contracting out the
action; (ii) the presence of recipes with the primary agent and the absence of agents for
contracting; (iii) the presence of agents for contracting and the absence of recipes with
the primary agent; and (iv) the absence of both agents and recipes; and presenting a
report of the complexity measures associated with performing the task.

In specific, the prior art of record taking singly or in combination does not teach
or suggest a combination method of delegating the defined task to a primary agent for
execution of the task by at least one of the primary agent and one or more contracting
agents, wherein determining complexity measures of the action is based on mutually
exclusive measures comprising (i) the presence of recipes with the primary agent for
performing the action and also the presence of agents for contracting out the action; (ii)
the presence of recipes with the primary agent and the absence of agents for
contracting; (iii) the presence of agents for contracting and the absence of recipes with
the primary agent; and (iv) the absence of both agents and recipes. In addition,
Applicant's argument presented in page 10, paragraphs 2-3 of the remark dated
December 11, 2008 with respect to the rejection of claim 1 has been fully considered
and deemed persuasive. Wherein the remark, Applicant argues that "The Examiner
notes in his Response to Arguments that the Hadad article provides examples of reports
such as a topology tree illustrated in Figure 2 of the Hadad article and pseudo codes
illustrated in Figure 3 of the Hadad article. Hadad does not define the complexity
measures in the reports by the four measures set forth above." Therefore, the closest
prior art of record (i.e: Hadad et al. ("Temporal Reasoning for a Collaborative Planning
Agent in a Dynamic Environment"), Reiffin (Patent no.: US 6,330,583 B1) and Holland
et al. (PGPUB 2003/0154177 A1)) taking singly or in combination does not teach or
suggest this feature. Based on this reasoning, claims 1 and 15 and their dependent
claims are allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LIN LIU** whose telephone number is (571)270-1447. The examiner can normally be reached on.

7.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (571)-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

9.   For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like

assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-

1000.

/Lin Liu/   /Patrice Winder/
Examiner, Art Unit 2445   Primary Examiner, Art Unit 2445